

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF NORTH CAROLINA  
SOUTHERN DIVISION  
Case No. 7:23-CV-897**

**IN RE:**

**CAMP LEJEUNE WATER LITIGATION**

**MEMORANDUM IN SUPPORT OF  
UNITED STATES' MOTION TO  
EXCLUDE UNRELIABLE AND  
IRRELEVANT EXPERT TESTIMONY  
OF MUSTAFA ARAL**

**This Document Relates To:  
ALL CASES**

**INTRODUCTION**

The Court should exclude retired professor Mustafa Aral's proffered opinions that the Agency for Toxic Substances and Disease Registry's ("ATSDR") water modeling methods and results for Camp Lejeune are reliable, accurate, and correct. These opinions fail to meet Federal Rule of Evidence 702's threshold of reliability under the *Daubert* standard. Dr. Aral only worked on limited aspects of the ATSDR's water modeling projects at Camp Lejeune and repeatedly testified at his deposition that he could not answer questions about significant aspects of those projects, including the collection of the data that the projects depend on and their intended purpose, because he remained unfamiliar with them. Consequently, Dr. Aral lacks "sufficient facts or data" for the broad opinions he proffers. Fed. R. Evid. 702(b).

Dr. Aral's opinions that the ATSDR's water modeling methods and results for Camp Lejeune are reliable, accurate, and correct without reference to intended use are also irrelevant. The question facing this Court is not whether the ATSDR's water models are reasonably close to the best that science can do. Rather, the question is whether the models are reliable for determining "toxic chemical exposure from the water at Camp Lejeune" in individual plaintiffs.<sup>1</sup> June 28, 2024

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<sup>1</sup> The United States argues in a concurrently filed motion that the results of ATSDR's models do not meet Federal Rule of Civil Procedure 702's admissibility standard.

Order, D.E. [247](#), at 1. Dr. Aral disclaimed knowledge of the epidemiological studies that the ATSDR's water modeling was intended to support, which were concerned with relative, rather than absolute, exposure levels. His opinions about the reliability, accuracy, and correctness of the models without reference to purpose are therefore irrelevant.

### STATEMENT OF FACTS

Plaintiffs disclosed an expert report from Dr. Aral that addressed four topics: (1) principles of water modeling, (2) modeling tools used by the ATSDR to model historical groundwater contamination at Camp Lejeune, (3) evaluation of the overall methods and results of the ATSDR's water modeling at Camp Lejeune, and (4) criticisms by the National Academy of Sciences & Engineering's National Research Council of the ATSDR's water modeling at Camp Lejeune. *See **Exhibit 1***, Expert Report of Mustafa Aral. Dr. Aral's evaluation of the ATSDR's overall modeling methods and results are the sole focus of this motion.

#### ***The Purpose of the ATSDR's Water Modeling Projects at Camp Lejeune Was to Support Epidemiological Studies Concerned With Relative, Not Absolute, Exposure Levels.***

The intended purpose of the ATSDR's water modeling at Camp Lejeune was to estimate *relative* exposure levels to inform the ATSDR's epidemiological studies related to Camp Lejeune. *See **Exhibit 2*** ATSDR, *Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions – Chapter A: Summary of Findings* (2007) at 5; **Exhibit 3**, ATSDR, *Analyses and Historical Reconstruction of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water Within the Service Areas of the Hadnot Point and Holcomb Boulevard Water Treatment Plants and Vicinities, U.S. Marine Corps Base Camp Lejeune, North Carolina – Chapter A: Summary and Findings* (2013) at 5; **Exhibit 4**, ATSDR, *Response to the Department of the Navy's Letter on:*

*Assessment of ATSDR Water Modeling for Tarawa Terrace* (2009) at 10. That purpose did not require the absolute value of the contaminant concentration estimates produced by the water modeling to be sufficiently reliable, accurate or correct to determine exposure levels in individuals. See Ex. 2 at A98; Ex. 4 at 10.

***The ATSDR's Complex Water Modeling Projects at Camp Lejeune Involved Many Scientists Working on Discrete Issues.***

The ATSDR's water modeling at Camp Lejeune involved two separate projects. The first project focused on the water distribution system serving Tarawa Terrace, a housing area where a few water supply wells were contaminated primarily by tetrachloroethylene ("PCE") from an off-base dry cleaner that traveled with groundwater from the area of the dry cleaner to the wells. See Ex. 1 at 6-7, 14. The second project focused on the water distribution system serving Hadnot Point, a larger area where a few water supply wells were contaminated primarily with trichloroethylene ("TCE") that traveled with groundwater from an industrial area and a landfill to the wells.

The Hadnot Point Water Treatment Plant ("WTP") served the Hadnot Point area and, prior to 1972, also served the neighboring Holcomb Boulevard area. See Ex. 1 at 6. After 1972, a separate Holcomb Boulevard WTP supplied the Holcomb Boulevard area. Although the wells supplying the new Holcomb Boulevard WTP were not contaminated, the Hadnot Point WTP, which at times was supplied by some contaminated wells, occasionally supplied supplemental water to the Holcomb Boulevard area. See Ex. 1 at 6-7. The contaminated and uncontaminated wells supplying both the Tarawa Terrace and Hadnot Point WTPs were pumped on varying schedules and rates to meet water demand, but records of the wells' pumping schedules were largely unavailable. See Ex. 2 at A17 ("pumpage data were limited and were available on a monthly basis solely for 1978 and intermittently during the period of 1981-1985"); **Exhibit 5**, ATSDR, *Chapter A-Supplement 2 – Development and Application of a Methodology to*

*Characterize Present-Day and Historical Water-Supply Well Operations* (2013) at S2.2 (“Prior to 1998, data pertaining to well operations are limited or unavailable.”).

The ATSDR’s water modeling projects were complex and involved multiple scientists working on discrete aspects of the overall projects. *See* Ex. 1 at 7. The ATSDR approached the modeling projects iteratively, beginning by (1) reviewing information sources, then (2) extracting information from identified sources, determining a conceptual modeling framework, (3) developing and calibrating models, (4) refining those models, and (5) assessing the fit of model results to the limited available historical data. The “assessment of fit” step included some evaluation of the models’ sensitivity to changes in assumed parameters and uncertainty from variation in assumed parameters. *See Exhibit 6*, Expert Report of Morris Maslia, at 27-28; Ex. 1 at 14-15. The ATSDR published detailed accounts of the two water modeling projects in a series of reports. *See* Ex. 1 at 8-10, Figure 2 (set of tables summarizing ATSDR’s chapter reports on the Tarawa Terrace and the Hadnot Point-Holcomb Boulevard study areas).

***Dr. Aral Was Not Involved in Significant Portions of the ATSDR’s Water Modeling Projects at Camp Lejeune.***

Dr. Aral participated in the ATSDR’s water modeling through his work at a research laboratory at the Georgia Institute of Technology. *See* Ex. 1 at 4. That laboratory contracted with the ATSDR to provide technical support on certain aspects of the ATSDR’s water modeling projects. *Id.* According to the ATSDR’s reports and Dr. Aral’s deposition testimony, his work on the two projects was limited to discrete aspects. His work on the Tarawa Terrace project was limited to (1) simulating the transport of PCE and its degradation by-products through the groundwater aquifer, (2) analyzing how changes in assumptions about the pumping of contaminated wells affected the model, and (3) investigating the model’s sensitivity to some input parameters and uncertainty associated with limited variation of some of the model’s input

parameters. *Id.* at 8 (describing Aral's involvement in authoring report chapters A, G, H, I, and K). He was not involved in (1) determining the geometry, hydrologic characteristics, and direction of groundwater flow in the aquifers through which PCE traveled, (2) modeling the flow of groundwater through that framework, (3) investigating when and where PCE and its biodegradation products were found in the aquifer around Tarawa Terrace, (4) collecting field tests of the water distribution system, or (5) simulating the water distribution system. *Id.*

His work on the Hadnot Point project was limited to (1) developing a method to reconstruct historical well pumping schedules, (2) developing a linear control method to model contaminant concentrations at supply well HP-651, (3) simulating transport of light nonaqueous phase liquids (like benzene) in the Hadnot Point Industrial Area, and (4) simulating occasional transfers of water from Hadnot Point through the Holcomb Boulevard water distribution system. *See id.* at 9-10 (identifying Aral's involvement in authoring report chapters A and A-Supplements 2, 5, 7, and 8). He was not involved in (1) determining the geometry, hydrologic characteristics, and direction of groundwater flow in the aquifers through which contaminants traveled, (2) modeling the flow of groundwater through that framework, (3) modeling the transport of TCE through the aquifer at both the industrial area and landfill other than at well HP-651, (4) investigating when and where contaminants were found at areas of the base where remediation took place, (5) investigating when and where contaminants were found in the aquifer around storage tanks that were potential contaminant sources, and (6) investigating historical water supply well operations. *Id.*

Dr. Aral's involvement as a co-author of the ATSDR's water modeling reports is summarized in the following chart, taken from information contained in Dr. Aral's expert report, Exhibit 1, at pages 8-10:

Tarawa Terrace	
Chapter A: Summary of Findings	Co-author

Chapter B: Geohydrologic Framework of the Castle Hayne Aquifer System	Not an Author
Chapter C: Simulation of Groundwater Flow	Not an Author
Chapter D: Properties and Degradation Pathways of Common Organic Compounds in Groundwater	Not an Author
Chapter E: Occurrence of Contaminants in Groundwater	Not an Author
Chapter F: Simulation of the Fate and Transport of Tetrachloroethylene (PCE) in Groundwater	Not an Author
Chapter G: Simulation of Three-Dimensional Multispecies, Multiphase Mass Transport of Tetrachloroethylene (PCE) and Associated Degradation By-Products	Co-author
Chapter H: Effect of Groundwater Pumping Schedule Variation on Arrival of Tetrachloroethylene (PCE) at Water-Supply Wells and the Water Treatment Plant	Co-author
Chapter I: Parameter Sensitivity, Uncertainty, and Variability Associated with Model Simulations of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water	Co-author
Chapter J: Field Tests, Data Analyses, and Simulation of the Distribution of Drinking Water	Not an Author
Chapter K: Supplemental Information	Co-author
<b>Hadnot Point – Holcomb Boulevard</b>	
Chapter A: Summary and Findings	Co-author
Chapter A Supplement 1: Descriptions and Characterizations of Data Pertinent to Water-Supply Well Capacities, Histories, and Operations	Not an Author
Chapter A Supplement 2: Development and Application of a Methodology to Characterize Present-Day and Historical Water-Supply Well Operations	Co-author
Chapter A Supplement 3: Descriptions and characterizations of Water-Level Data and Groundwater Flow for the Brewster Boulevard and Castle Hayne Aquifer Systems and the Tarawa Terrace Aquifer	Not an Author
Chapter A Supplement 4: Simulation of Three-Dimensional Groundwater Flow	Not an Author
Chapter A Supplement 5: Theory, Development, and Application of Linear Control Model Methodology to Reconstruct Historical Contaminant Concentrations at Selected Water-Supply Wells	Co-author
Chapter A Supplement 6: Source Characterization and Simulation of Fate and Transport of Selected Volatile Organic Compounds in the Vicinities of the Hadnot Point Industrial Area and Landfill	Not an Author
Chapter A Supplement 7: Source Characterization and Simulation of the Migration of Light Nonaqueous Phase Liquids (LNAPLs) in the Vicinity of the Hadnot Point Industrial Area	Co-author
Chapter A Supplement 8: Field Tests, Data Analyses, and Simulation of the Distribution of Drinking Water with Emphasis on Intermittent Transfers of Drinking Water Between the Hadnot Point and Holcomb Boulevard Water-Distribution Systems	Co-author



Chapter B: Geohydrologic Framework of the Brewster Boulevard and Castle Hayne Aquifer Systems and the Tarawa Terrace Aquifer	Not an Author
Chapter C: Occurrence of Selected Contaminants in Groundwater at Installation Restoration Program Sites	Not an Author
Chapter D: Occurrence of Selected Contaminants in Groundwater at Above-Ground and Underground Storage Tank Sites	Not an Author

***Dr. Aral Disclaimed Knowledge of Key Aspects of the ATSDR's Water Modeling Projects at Camp Lejeune, Including Purpose.***

At deposition, Dr. Aral confirmed that for both the Tarawa Terrace and Hadnot Point projects, his only involvement in data collection or field testing was reviewing data (provided to him by others) with respect to the occasional transfers of supplemental water from the Hadnot Point water distribution system to the Holcomb Boulevard water distribution system. See Exhibit 7, Feb. 6, 2025 Dep. Tr. of Mustafa Aral, at 52:9-18 and 55:6-57:9.

He also repeatedly testified that he was unfamiliar with aspects of the water modeling on which he was not involved. For example, when asked why an ATSDR report said the ATSDR had to reconstruct operational chronologies for 96 water supply wells at Hadnot Point, he said he was “not involved in data collection, so [he] had no idea what [the report] is telling us about.” Ex. 7 at 283:6-15. He similarly said he was “not ready to answer questions on” a table listing the ATSDR’s assumptions about the rates at which contaminants entered the environment in the Hadnot Point model “because I was not involved in writing this report,” which was authored by “some other group.” *Id.* at 288:4-11. When asked whether he agreed with a statement in one of the ATSDR’s reports that for the Tarawa Terrace project, the rate selected for modeling the biodegradation of perchloroethylene could represent a minimum rate – meaning the *slowest* rate at which perchloroethylene could have left the aquifer by degrading into its byproducts, resulting in potentially artificially high remaining perchloroethylene concentrations – he said “I don’t know anything about that. I wasn’t a part of that modeling. I didn’t write this report,” *Id.* at 189:5-23;

see **Exhibit 8**, ATSDR, *Analyses of Groundwater Flow, Contaminant Fate and Transport, and Distribution of Drinking Water at Tarawa Terrace and Vicinity, U.S. Marine Corps Base Camp Lejeune, North Carolina: Historical Reconstruction and Present-Day Conditions – Chapter F: Simulation of the Fate and Transport of Tetrachloroethylene (PCE)* (2008) at F28-29 (“On the other hand, if a significant quantity of the PCE degraded in the vicinity of well TT-26 was replaced by advection, then the degradation rate computed using Equation 3 is probably a minimum rate.”).

Dr. Aral also testified to his limited involvement in the ATSDR’s analyses of the quality of calibration and uncertainty associated with the models. For Tarawa Terrace, he “was not ready to answer questions” about the ATSDR’s evaluation of bias in the Tarawa Terrace model because he “didn’t run the simulations” and “ha[d] not written th[e] report” in which the bias was reported. Ex. 7 at 229:6-11. When pressed on why the ATSDR calculated bias in the Tarawa Terrace model in two different ways, he could give only possible reasons and concluded, “I have no idea. I think this report that you are referring to [wa]s not written by me. I have no idea what the – the author wanted to say at that point in reference to these questions you are asking, so. . .” *Id.* at 231:24-232:10. He also said, “I didn’t write this report. I’m not answering any questions that is [sic] coming from somebody else’s statements in this report.” *Id.* at 234:9-11. For Hadnot Point, when shown a paragraph from a report on the ATSDR’s analyses of uncertainty in the model’s simulated concentrations for TCE from unknown historical pumping, he said he “d[id]n’t know what this is doing or what this is all about that we are looking at right now. I don’t know that.” *Id.* at 325:22-327:10.

Dr. Aral further testified that he did not remember whether the software the ATSDR used to model contaminant transport in the models simulated chemical and physical processes by which contaminants were taken up or held by the soil in the aquifer through which they traveled. *See id.*



at 177:25-178:3. And when asked about a report on how the ATSDR determined and characterized contaminant sources at Hadnot Point, he said he was “not an author on th[at] report so [he] wouldn’t know what is [sic] the procedure – what are the procedures they have used[.]” *Id.* at 321:3-8.

Despite being listed as a co-author of the ATSDR’s water modeling project summary reports, which explained their purpose, *see* Ex. 2 at A5 (“to provide epidemiologists with historical monthly concentrations of contaminants in drinking water”); Ex. 3 at A7 (“to obtain information and data that could be extracted and transformed into digital databases in order to conduct historical reconstruction analyses”), Dr. Aral admitted that the epidemiological studies the ATSDR’s modeling supported were outside his expertise and that he had limited awareness of them. For example, when asked if he knew the purpose of the ATSDR’s Tarawa Terrace water modeling, he said he knew they were for an epidemiological study, Ex. 7 at 86:6-10, but had “no idea” about specifics, such as whether they were for public, individual, or community exposure, *id.* at 86:20-87:20. When asked if he was aware that the ATSDR’s Hadnot Point water modeling was similarly intended to supply “estimates of historical exposures” for epidemiological studies, he said “I wasn’t aware of the details of this purpose, but I was aware of the fact that this study was going to be followed by an epi[demiology] study.” *Id.* at 275:5-276:3. He also acknowledged that “the level of detail on exposure data needed for an epidemiological case control study” was outside of his expertise. *Id.* at 42:11-19.

***Dr. Aral Nonetheless Opined That All of the ATSDR’s Water Modeling Methods, Reports, and Results are Reliable, Accurate, and Correct.***

Despite his limited involvement, failure to research and investigate, and admitted lack of knowledge with respect to the ATSDR’s water modeling projects, Dr. Aral broadly opined in his report that the “ATSDR used the best available datasets, sound science and engineering principles,

and professional judgment to establish the best possible reconstructed values of historical contaminant concentrations, and that, within a reasonable degree of scientific and engineering certainty, these were the contaminant levels delivered to Tarawa Terrace, Hadnot Point, and Holcomb Boulevard.” Ex. 1 at 48; *see also id.* at 44-46. He further opined that “[t]he analyses published in all ATSDR chapter reports . . . and supplemental information regarding Camp Lejeune” are the results of “proper scientific and engineering methodologies” that “remain to this day to be mathematically reliable, statistically accurate and correct.” *Id.* at 13; *see also id.* at 15. As discussed below, Dr. Aral’s opinions are not reliable because they are not supported by “sufficient facts or data,” as required by Federal Rule of Evidence 702.

### LEGAL STANDARD

An expert’s testimony is admissible only if it is reliable. *Nease v. Ford Motor Co.*, 848 F.3d 219, 229 (4th Cir. 2017) (citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 597 (1993)). Under Federal Rule of Evidence 702, an expert’s testimony is reliable only if (1) “it is based upon sufficient facts or data,” (2) “it is the product of reliable principles and methods,” and (3) the witness has reliably applied those “principles and methods to the facts of the case.” Fed. R. Evid. 702.

Determining “[r]eliability is a ‘flexible’ inquiry that focuses on ‘the principles and methodology’ employed by the expert.” *Sardis v. Overhead Door Corp.*, 10 F.4th 268, 281 (4th Cir. 2021) (quoting *Daubert*, 509 U.S. at 594-95). To make the reliability inquiry, courts must “verify that expert testimony is based on sufficient facts or data” and “may conclude that there is simply too great an analytical gap between the data and the opinion offered, and accordingly choose to exclude the opinion,” *EEOC v. Freeman*, 778 F.3d 463, 472 (4th Cir. 2015) (Agee, J., concurring) (internal quotation marks and citations omitted). “[N]othing in either *Daubert* or the

Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert[.]” *Cooper v. Smith & Nephew, Inc.*, 259 F.3d 194, 203 (4th Cir. 2001) (quoting *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 157 (1999)).

Furthermore, “[c]ourts . . . must serve a gate-keeping function with respect to [expert] opinions to ensure ‘the expert isn’t being used as a vehicle for circumventing the rules of evidence.’” *Factory Mut. Ins. Co. v. Alon USA L.P.*, 705 F.3d 518, 524 (5th Cir. 2013) (quoting *In re James Wilson Assocs.*, 965 F.2d 160, 173 (7th Cir. 1992)). Although Federal Rule of Evidence 703 allows experts to rely on the kinds of facts or data “experts in the particular field would reasonably rely on,” Fed. R. Evid. 703, “Rule 703 was not intended to abolish the hearsay rule and to allow a witness, under the guise of giving expert testimony, to in effect become the mouthpiece of the witnesses on whose statements or opinions the expert purports to base his opinion,” *Factory Mut. Ins. Co.*, 705 F.3d at 524 (internal quotation marks and citation omitted).

An expert’s testimony is also admissible only if it is relevant. “The Supreme Court has explained that relevance—or what has been called ‘fit’—is a precondition to the admissibility of expert testimony, in that the rules of evidence require expert opinions to assist the ‘trier of fact to understand the evidence or to determine a fact in issue.’” *United States v. Ancient Coin Collectors Guild*, 899 F.3d 295, 318 (4th Cir. 2018) (quoting *Daubert*, 509 U.S. at 591). Determining relevance requires the district court to go beyond reliability and consider whether the testimony “fits” the instant case because “not all *reliable* expert testimony is *relevant* expert testimony.” *Garlinger v. Hardee’s Food Sys.*, 16 F. App’x 232, 235 (4th Cir. 2001). “‘Fit’ is not always obvious,” moreover, “and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes.” *Daubert*, 509 U.S. at 591 (citation omitted).

## ARGUMENT

The Court should exclude Dr. Aral's broad opinions regarding the accuracy, reliability, and correctness of the ATSDR's methodologies and results. Dr. Aral admitted that he was unfamiliar with multiple significant aspects of the ATSDR's water modeling projects and therefore cannot have reliably evaluated the overall datasets and methodologies of the ATSDR's project. It follows that he has no basis to reliably evaluate the results of those projects.

Dr. Aral also admitted that he did not know the level of contaminant exposure detail needed for the epidemiology studies that the ATSDR's water models were intended to support, and he offered no opinions that the ATSDR's water modeling projects' methodologies or results are sufficiently accurate or precise for the task at hand – *i.e.*, estimating individual plaintiffs' exposure. Accordingly, his opinions evaluating the results of the ATSDR's water modeling projects with respect to general scientific and engineering bounds are also irrelevant.

### **I. Dr. Aral Cannot Reliably Evaluate the Overall Datasets, Principles, Methodologies, and Results of the ATSDR's Water Modeling Projects at Tarawa Terrace and Hadnot Point Because He Disclaimed Knowledge of Significant Aspects of the ATSDR's Data Collection and Methodologies for the Projects.**

Dr. Aral testified that he was not involved in collecting data that the ATSDR used in all relevant steps of the water modeling projects at Camp Lejeune, including, critically, the collection of data for determining a conceptual model framework and assessing the fit of model results to the collected historical data. *See, e.g.*, Ex. 7 at 52:9-18, 55:6-57:9, 283:6-15. He also disclaimed any knowledge of how the ATSDR determined what data it needed for key aspects of its water modeling projects. At Hadnot Point, this included a failure to know (1) why the ATSDR needed operational histories for the 96 supply wells in the Hadnot Point system, of which only a few were contaminated, *see id.* at 283:6-15, and (2) why assumptions were made about the rates at which contaminants entered the environment, *id.* at 288:4-11. Because Dr. Aral was not involved in, and

remains unknowledgeable about, the ATSDR's data collection processes, he cannot reliably claim that the projects were methodologically sound, that the reporting of the results of the projects were accurate, or that the results of models were reliable.

Similarly, Dr. Aral disclaimed knowledge of significant aspects of the ATSDR's methodologies for evaluating the models. Dr. Aral testified that he was unfamiliar with the ATSDR's evaluation of the Hadnot Point water model's overall parameter sensitivity, uncertainty, and variability for TCE and its biodegradation products. *See id.* at 326:18-327:10. He also stated that he was unfamiliar with the ATSDR's evaluation of bias in the Tarawa Terrace model, which the ATSDR concluded was biased high, *see id.* at 231: 23-232:10; Ex. 2 at A25, and whether the tetrachloroethylene biodegradation rate selected for the Tarawa Terrace model could represent a minimum, *see* Ex. 7 at 189:5-23. Dr. Aral even testified that he was unfamiliar with whether the software the ATSDR used to model contaminant transport in both models simulated the processes by which contaminants bind to the soil as they travel through an aquifer. *See id.* at 177:25-178:3. Because Dr. Aral was uninvolved in and remains unknowledgeable about the ATSDR's assessment of its models, as well as key aspects of the ATSDR's modeling software, he lacks sufficient facts and data to broadly opine on the reliability, accuracy, and correctness of the overall datasets, methodologies, and results of the ATSDR's water models.

Courts have repeatedly held that one expert cannot “testify for the purpose of vouching for the truth of what [another expert] had told him—of becoming in short the [other expert's] spokesman,” as Dr. Aral is doing for the ATSDR's other water modelers. *In Re James Wilson Assocs.*, 965 F.2d 160, 172 (7th Cir. 1992); *see also Dura Auto. Sys. of Ind., Inc. v. CTS Corp.*, 285 F.3d 609, 613-14 (7th Cir. 2002) (a hydrogeologist who lacked expertise in groundwater modeling could not vouch for groundwater flow models created by a colleague who was not timely

disclosed as an expert witness). For example, in *In Re James Wilson Associates*, the Seventh Circuit held that an architect who *had not* evaluated the physical condition of a building could not testify to the building's condition based on hearsay from a non-testifying consulting engineer who *had* evaluated it. 965 F.2d at 172-73. The court reasoned that although "an expert witness normally is allowed to explain the facts underlying [their opinion], even if they would not be independently admissible[,]" the "fact that inadmissible evidence is the (permissible) premise of the expert's opinion does not make that evidence admissible for other purposes, purposes independent of the opinion." *Id.* at 173 (citation omitted). Such a "hand-off" is an "improper" attempt "to use an expert witness as a screen against cross-examination." *Id.*

Multiple courts have prohibited expert testimony that seeks merely to parrot other evidence or vouch for the work of another expert. *See Funderburk v. S.C. Elec. & Gas Co.*, 395 F. Supp. 3d 695, 718-20 (D.S.C. July 23, 2019) (expert's testimony impermissibly parroted manufacturer's hearsay on culvert life expectancy); *In re Zetia (Ezetimibe) Antitrust Litig.*, No. 2:18-md-2836, 2022 WL 3337796, at \*10 (E.D. Va. Aug. 3, 2022) ("an expert is not entitled to testify to opinions that rely on the opinion of another expert, simply because the other is an expert") (quoting *Funderburk*, 395 F. Supp. 3d at 717)); *United States v. Mejia*, 545 F.3d 179, (2d Cir. 2008) (police officer's testimony impermissibly parroted hearsay interviews from gang members that were not synthesized into an expert opinion); *cf. Factory Mut. Ins. Co.*, 705 F.3d at 523-24 (appraiser's testimony did not impermissibly parrot hearsay about a building's depreciation because the expert "did more than just repeat information gleaned from external sources").

The Fourth Circuit reached a similar conclusion in a products liability case, holding that an expert's opinion should be excluded where the expert lacked information necessary to render the opinion. *Sardis*, 10 F.4th at 275. In *Sardis*, over the defendant's *Daubert* challenge, the district

court had allowed an expert to opine that an alleged defect in the design of the garage door shipping container at issue proximately caused the plaintiff's injury. *Id.* at 275, 277, 290. In reversing the district court, the Fourth Circuit noted that, although the expert's testimony was "scientific" and could have been tested, the expert had "conducted no testing whatsoever to arrive at his opinion." *Id.* at 291 (internal quotation marks omitted) (quoting *Nease*, 848 F.3d at 232).

Here, Dr. Aral could have reviewed the ATSDR's data collection processes and methods in the ATSDR's many detailed reports that he did not author. And had he done so, he could have used his scientific knowledge and experience to evaluate their impact on the reliability of the methods and results of the ATSDR's water models – as the United States' experts did. But Dr. Aral failed to do this, so his broad opinions regarding the reliability, accuracy, and correctness of ATSDR's datasets, methodologies, and results are not reliable expert opinions based on sufficient facts and data. Instead, they are an improper attempt "to use an expert witness as a screen against cross-examination," *In Re James Wilson Assocs.*, 965 F.2d at 173, as Dr. Aral repeatedly demonstrated at his deposition when he refused to answer questions about the very reports that he had opined were reliable, accurate, and correct, *see, e.g.*, Ex. 7 at 189:5-23, 231:24-232:10, 234:9-11, 288:4-11, 325:22-327:10. Without sufficient facts or data, there is no reliable methodology supporting Dr. Aral's broad opinions, which are thus "connected to existing data only by the *ipse dixit* of" Dr. Aral. *Cooper*, 259 F.3d at 203 (4th Cir. 2001) (internal quotation marks omitted). These opinions therefore fail to meet the reliability standard of Federal Rule of Civil Procedure 702.



**II. Dr. Aral's Opinions that the ATSDR's Water Modeling Methods and Results for Camp Lejeune Are Reliable, Accurate, and Correct Within Reasonable Bounds of Science and Engineering Certainty Are Irrelevant to Whether They Are Reliable, Accurate, and Correct for Estimating Individual Plaintiffs' Exposure.**

Dr. Aral testified that he knows nothing about the level of exposure detail needed for the epidemiological studies that the ATSDR's water modeling projects were intended to support. *See* Ex. 3 at 42:11-19. His report also contained no opinion on whether the ATSDR's water modeling methods or results were reliable, accurate, or correct with respect to any particular purpose. Dr. Aral instead opined that the ATSDR's water modeling methods and results are reliable, accurate, and correct only to a reasonable degree of scientific and engineering certainty. *See* Ex. 1 at 13, 15, 44-46, 48. Without any reference to the purpose of the model, however, Dr. Aral's opinion is unhelpful in determining the exposure issue in this case—*i.e.*, whether the model results are reliable for estimating the historical concentration of contaminants to which individual plaintiffs were exposed at Camp Lejeune. *See* D.E. [247](#) at 1; *Ancient Coin Collectors Guild*, 899 F.3d at 318 (quoting *Daubert*, 509 U.S. at 591) (“the rules of evidence require expert opinions to assist the ‘trier of fact to understand the evidence or to determine a fact in issue’”).

Furthermore, it does not matter whether science and engineering could do any better than the ATSDR's water modelers did because relevance is independent of scientific validity. *See Garlinger*, 16 F. App'x at 235 (“not all *reliable* expert testimony is *relevant* expert testimony”). What matters for relevance is whether Dr. Aral's opinions about the model's reliability “‘fit[]’ the instant case.” *Id.* And in the instant case, an opinion that “fits” must address whether the ATSDR's modeling methods and results are sufficiently reliable, accurate, and correct for estimating individual exposure, as Plaintiffs seek to use them. Dr. Aral's opinions that the ATSDR's models, methodologies, and results are reliable “to a reasonable degree of scientific and engineering

certainty,” without any reference to purpose, do not help the Court determine whether they are reliable for estimating individual exposures. Ex. 1 at 48.

Reliability for individual exposure is also not included in the models’ intended purpose, which was to support epidemiology studies concerned with relative, not absolute, exposure levels, as the ATSDR explained in a letter to the Navy. The letter stated:

To address the issue of the intended use of the water-modeling results by the current ATSDR epidemiological study, the DON should be advised that a successful epidemiological study places little emphasis on the actual (absolute) estimate concentration and, rather, emphasizes the relative level of exposure. That is, exposed individuals are, in effect, ranked by exposure level and maintain their rank order of exposure level regardless of how far off the estimated concentration is to the “true” (measured) PCE concentration.

Ex. 4 at 6.

In fact, the ATSDR itself specifically disclaimed that the models could be used to determine individual exposure levels. With respect to Tarawa Terrace, the ATSDR said:

ATSDR’s exposure assessment cannot be used to determine whether you, or your family, suffered any health effects as a result of past exposure to PCE-contaminated drinking water at Camp Lejeune. The study will help determine if there is an association between certain birth defects and childhood cancers among children whose mothers used this water during pregnancy. Epidemiological studies such as this help improve scientific knowledge of the health effects of these chemicals.

Ex. 2 at A98. And with respect to Hadnot Point, the ATSDR said:

ATSDR’s exposure estimates cannot be used alone to determine whether you, or your family, suffered any health effects as a result of past exposure to TCE-contaminated drinking water at USMCB Camp Lejeune. The studies that the ATSDR is conducting may help determine if there are associations between certain health effects and exposures to contaminated drinking water. Epidemiological studies such as these help improve scientific knowledge of the health effects of these chemicals.

Ex. 3 at A182. Dr. Aral’s opinions that the ATSDR’s methodologies and results are reliable, accurate, and correct without reference to their intended purpose are inadmissible because they fail to meet Rule 702’s relevance threshold.

## CONCLUSION

For the foregoing reasons, the United States respectfully requests that Mustafa Aral's broad opinions on the overall datasets, methodologies, and results of the ATSDR's water modeling projects be excluded as unreliable and irrelevant.

Dated: April 29, 2025

Respectfully Submitted,

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**CERTIFICATE OF SERVICE**

I hereby certify that on April 29, 2025, I electronically filed the foregoing using the Court's Electronic Case Filing system, which will send notice to all counsel of record.

/s/ Allison M. O'Leary  
ALLISON M. O'LEARY